

REMARKS

In response to the Office Action dated February 26, 2003, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims. The identification of claims 11-16 as containing allowable subject matter is noted with appreciation. The rewriting of these claims in independent form is being held in abeyance, pending consideration of this response.

Claims 1, 5 and 10 were rejected under 35 U.S.C. §102, on the grounds that they were considered to be anticipated by the *Matsushita et al.* patent. In addition, claims 2-4 and 6-9 were rejected under 35 U.S.C. §103, as allegedly being unpatentable over the *Matsushita et al.* patent in view of various secondary references. Applicants respectfully submit that the *Matsushita et al.* patent does not anticipate the subject matter of the pending claims, nor otherwise suggest that subject matter, whether considered by itself or in combination with the other references.

With reference to claim 1, the Office Action states that Figure 15 of the *Matsushita et al.* patent discloses an X-ray generator 54 for producing a beam of X-rays directed towards a sample 1. The rejection further states that the detector 56 comprises an electronic X-ray detector. Applicants respectfully submit that these statements are based upon a misunderstanding of the disclosure of the *Matsushita et al.* patent. More particularly, the whole surface evaluating part 50, referenced in the rejection, does not constitute an X-ray topographic system. Rather, it is a *visible light scattering* topographic system. Element 54

is labeled as a "defect observing laser." Similarly, the CCD camera 56 is part of a "*light* receiving optical system."

The *Matsushita et al.* patent discloses that the visible light scattering topographic system, which constitutes the whole surface evaluating part 50, is distinct from an X-ray topographic system. For instance, at column 14, lines 11-17, the patent states:

[T]he whole surface evaluating part is separated from the stereoscopic analyzing part. Therefore, the whole surface evaluating part can be combined with *other* systems, such as a particle counter and an X-ray topography, and the stereoscopic analyzing part can be combined with other systems, such as a scanning electron microscope (SEM) and an FIB drawing system. (emphasis added)

The disclosure that the whole surface evaluating part 50 can be combined with *other* systems, and the identification of an X-ray topographic system as one example of such an other system, clearly indicates that the whole surface evaluating part 50 itself is not considered to be an X-ray topographic system. Rather, as clearly identified in Figure 15, the whole surface evaluating part operates on principles of visible light scattering.

Further, while the *Matsushita et al.* patent references an X-ray topographic system, *per se*, it does not describe any of the details of such a system, and therefore does not disclose the subject matter recited in the claims. In view of the foregoing, therefore, it is respectfully submitted that the *Matsushita et al.* patent does not anticipate the subject matter of claims 1, 5 and 10.

In addition, it is respectfully submitted that the *Matsushita et al.* patent does not suggest the subject matter of claims 2-4 and 6-9, whether considered by itself or in combination with the other references. The rejections of these claims is based upon the assumption that the *Matsushita et al.* patent discloses an X-ray generator and an X-ray detector. However, as noted above, the whole surface evaluating part 50 of the *Matsushita et al.* patent operates on the basis of visible light scattering. Accordingly, even if the *Matsushita et al.* patent is considered in light of the secondary references, their combined teachings cannot be deemed to suggest the X-ray topographic system recited in the pending claims.

Furthermore, claim 7 recites that the detector is located 5-10 mm from the sample. The rejection alleges that the *Arndt et al.* reference discloses this feature, but Applicants do not see the basis for the allegation. If the rejection is not withdrawn, the Examiner is requested to identify where the reference discloses this claimed feature.

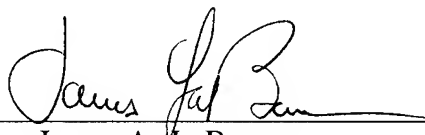
The rejection of claims 8 and 9 relies upon the *Hossain et al.* patent, with particular reference to element 122 illustrated in Figure 6. However, this element does not function to transmit the X-rays as a substantially parallel beam. Rather, it is a monochromator that operates like a filter to produce an X-ray beam having a certain wavelength (see column 15, lines 59-65). The function of producing a quasi-parallel X-ray beam is carried out by the collimators 124 and 126. The collimators comprise a bundle of straight, hollow metal conduits (column 16, lines 19-23). In contrast, claims 8 and 9 recite a lobster eye optic comprising a number of parallel, X-ray reflective plates that are about 150 μm thick and

coated with gold. For these additional reasons, claims 8 and 9 are submitted to be patentable over the references.

In view of the foregoing, it is respectfully submitted that all pending claims are allowable over the references of record. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 
James A. LaBarre
Registration No. 28,632

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Attorney's Docket No. 032516-002
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Attachment to Amendment

Marked-up Claims

6. (Amended) A system according to claim 1, in which the X-ray generator is adapted to produce a source spot size of 100 μm or less [and has an exit window less than 20 mm from the target].

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